

OPC and Bently Nevada

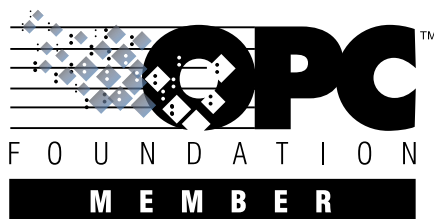


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Bently Nevada recognizes that there is tremendous value in merging the data and information from our machinery management systems with the process, plant, asset, business, and other applications/data that exist in your facility. For several years, we've advocated using our open interfaces to combine process and machinery data. Using open interfaces provides a clearer picture of how the process and machine interact and affect each other. Our goal is to provide systems that easily integrate and exchange data with other systems in the plant environment, using accepted and established open standards and conventions.

In the software world, these standards tend to evolve rather quickly. Suppliers, such as Bently Nevada, must identify, embrace, and incorporate these standards into their products to make systems easy-to-use and easy-to-integrate. One such standard is OPC (an acronym for *OLE for Process Control*), which is an important new standard that Bently Nevada supports. This article talks about what OPC is, why Bently Nevada supports it, and our current and future product plans for incorporating OPC interface capabilities.



What is OPC?

OPC is rapidly becoming the preferred mechanism for exchanging data between various control and automation software applications. The intent of the OPC standard is to replace existing transfer methods, such as Dynamic Data Exchange (DDE). In particular, OPC provides functionality and reliability, not present in current data exchange methods, which allows it to be used in a real-time process environment.

OPC is an open standard administered by the OPC Foundation. Their charter is simple:

To develop an open and interoperable interface standard, based upon the functional requirements of OLE/COM and DCOM technology, that fosters greater interoperability between automation/control applications, field systems/devices, and business/office applications.

OPC is the fastest-growing data exchange mechanism in the world, with over 175 member companies currently using OPC in more than 150 products. Clearly, OPC is an important and globally-accepted open standard. As such, Bently Nevada has joined OPC, to

allow us to participate in the development of OPC specifications and to use OPC technology in our products. **It is our intent to use OPC as our preferred protocol to interface our machinery management software products to complementary control and automation products, such as data historians and human interface applications.**

Bently Nevada Products Supporting OPC

Bently Nevada provides a data import (OPC client) interface for our Data Manager® 2000 (DM2000) Software. It allows us to import the same data that has historically been obtained using DM2000's DDE client interface. While we will continue to provide DDE capabilities and support, our preference is to use and advocate the OPC interface whenever possible. This OPC client interface is available now through Bently Nevada's System Integration Engineering (SIE) group. In the second quarter of this year, DM2000 will be available with the OPC client interface as a standard option that can be configured and integrated by the user. However, we still recommend you consider using Bently Nevada's SIE expertise to help you install and integrate our products.

In the fourth quarter of 1999, Bently Nevada will also offer an OPC data exporter (server). This will allow you to share data from our machinery management systems with any software that can act as an OPC client. In the future,

virtually all of our machinery management software products, including System 1™, will include OPC support.

If you would like more information

on OPC, visit our website at www.bently.com. You'll find information on products currently supporting OPC, links to other OPC sites, and exciting

developments about our plans for incorporating this important open standard in our other products. ☺

What do we mean by "Process Data" and why is it important?

Historically, Bently Nevada's interest in non-vibration parameters stemmed from their usefulness as machinery protection parameters. These included parameters, such as bearing metal temperature, seal oil system pressure, casing movement and growth, motor winding temperatures, and other critical measurements of machine integrity used to initiate a shutdown without the need for human intervention. Today, Bently Nevada's need for a variety of data is changing – changing because machinery protection is no longer a sufficient practice for our customers. They must also manage their machinery's condition. To do this, our systems require a wider variety of data to fully define the operating state, condition, and performance of the machinery. This proactive approach to machinery allows you to support decision making in advance rather than waiting for conditions to degrade so severely that the machinery protection system is forced to intervene. While protection is still necessary, it is inherently a reactive function focused on protecting your machinery and your process stream, not on optimizing their availability and reliability.

This wider variety of data (sometimes called "process data") makes it

possible to assess the impact of the process on the machinery and the machinery on the process. Some examples are inlet gas temperature and pressure on a compressor or inlet steam temperature and pressure on a turbine. Historically, this data has been gathered from the Distributed Control System (DCS) and independent systems, such as machinery control systems.

We have numerous interfaces which enable Bently Nevada's machinery management systems to integrate with all the commonly used DCS systems to access this important process-related information. We believe it is a high priority to design the integration of the control and associated systems with the machinery management system at the conceptual stage of a new project or upgrade.

While the additional data needed by the machinery management system will often reside in the process or machinery control system, this is not always the case. When parameters are not actively used by the DCS for process control, but are important to machinery management, it is often appropriate to connect these parameters directly to the Bently Nevada 3500 Machinery Protection System. This allows the information

to be placed directly into the machinery management system database – where it is needed – without the delays normally encountered in a process control system. The parameters can then be optimally processed, validated, and synchronized with other management parameters; there is no data acquisition performance degradation under any plant operating scenario as may be the case when relying on a process control system to acquire and share this data. Because Bently Nevada machinery management systems can export the data in their databases using standard data exchange mechanisms, it can also be shared with other plant control and automation systems once in our database.

No matter which way you choose to integrate your systems, good engineering practice is essential to avoid difficulty and to ensure that a reliable and easily supported solution results. Bently Nevada's Project Management and System Integration Engineering groups have a wealth of experience gained from numerous integration projects. We would like the opportunity to talk to you about what we have learned and assist you in your next project. ☺